ATTACHMENT B

RESPONSES TO DOE COMMENTS

DRAFT PHASE III RFI/RI REPORT

EM-463 COMMENTS ON: DRAFT, PHASE III RFI/RI REPORT, ROCKY FLATS PLANT, 881 HILLSIDE OPERABLE UNIT NO. 1 VOLUME I AND VOLUME II

GENERAL COMMENTS:

I. *The document is not yet complete. Surficial soils and groundwater geochemical data in particular have not yet been included, therefore a complete review was not possible. Also, all of the presented data has not yet been validated.*

Response: The current version of the report presents geochemical data for surface soils, ground water data for fourth quarter 1991, and the available ground water data for first quarter 1992). Data evaluated in this report are validated and presented in Appendix C.

II. *The discussion on background for soils, and probably for groundwater, needs to be expanded. A table (Table 4-1) is provided that has specific background values, however the text discussion seems to include a higher range than the values on the table, i.e., multiples of these values are used. This area needs clarification as to what "background" is considered to be at the Rocky Flats Plant.*

Response: The discussion on background for soils and ground water has been expanded in this report. Current RFP backgrounds for both media are listed in the table, but a multiplier of ten is used to determine the potential for contamination to account for natural variance in the geochemistry of geologic materials versus potential contamination.

III. *Almost every section included a statement that several organic species were "probable" laboratory contaminants. Perhaps a section devoted to providing laboratory Quality Assurance (QA)/Quality Control (QC) Data would clarify the situation and set an upper limit for what is considered laboratory contamination. If this is a widespread problem as this report indicates then corrective measures should be implemented on the operable unit (OU) investigations.*

Response: Organic laboratory contaminants have been addressed in this report. The discussion has been expanded to clarify methods to determine laboratory contaminant levels and actual site contamination.

IV. *The discussion on seeps needs to be consolidated into one section or subsection. This is one of the most important pathways for contamination to be transported into surface water drainages. The present discussion is scattered throughout the text and not*

supported with documented evidence, i.e., seeps are not specifically identified by location, or by a set criteria.

Response: A consolidated discussion of surface seeps including information on location or set criteria, is now provided in Section 3.7.3.

V. *The data on aquifer characteristics is not comparable. The discussion in that section is confused, with various numbers being presented and then refuted. Currently that section reads like the data collected does not match what was expected, and so the data was discarded. Perhaps only the data which has the reliance should be presented in the text, with the remainder presented in an appendix with a discussion as to why the data is not considered valid.*

Response: The discussion of aquifer characteristics has been revised to reduce confusion and focus on the most reliable data as requested.

VI. *The discussion on Applicable or Relevant and Appropriate Requirements (ARARs) does not appear consistent with EPA guidance. At this stage the ARARs should be evaluated with regards to Applicability, Relevance, and Appropriateness and presented as such, not left as "potential." Also, the Record-Of-Decision (ROD) is not used for determining ARARs but to document what ARARs can be met, and which ARARs require a variance.*

Response: A discussion of ARARs, or benchmarks, has been included. Section 4.8 provides the information requested.

SPECIFIC COMMENTS:

1. *Executive Summary, p. xxiii, first paragraph: According to an earlier statement, there is no surficial soils data. Please clarify where the information on Uranium, and Plutonium in surface soils is located.*

Response: Surface soil data are included in Section 4.3 of this version of the report.

2. *Section 1.2.3, p. 1-14, second paragraph, last sentence: As this report is dated June 1992, the reference to a report "expected to be complete in May 1992" is probably incorrect. Please clarify.*

Response: The Final Historical Release Report was completed in June 1992, not in May 1992, as stated in the draft report. The text has been clarified.

3. *Section 1.3.2, p. 1-20, second paragraph: It does not appear that EPAs concern on ARARs has been met. The concern expressed dealt with a determination on which ARARs would be used at this site. From the text it appears that all ARARs are still considered potential. Please clarify.*

   Response: A discussion of ARARs, or benchmarks, is included in Section 4.8 as requested.

4. *Section 3.4, p. 3-5, second paragraph: The statement that includes Dry Creek in draining the northern portion of the plant security areas is incorrect. Dry Creek drains the northeastern part of the buffer zone. An unnamed tributary of Walnut Creek drains the northern area of plant security area. Also Rock Creek should be mentioned draining part of the Rocky Flats Plant.*

   Response: The text has been revised to accurately describe which creek drains which part of the plant security area and/or buffer zone.

5. *Section 3.4, p. 3-6, first paragraph: Please provide evidence regarding the gaining and losing relationship of the South Interceptor Ditch (SID) in the OU-1 area. Table 3-2 would suggest the SID losses water along its entire reach in this area.*

   Response: This section has been revised to clarify the recharge/discharge relationships of the SID.

6. *Section 3.6, p. 3-8, second paragraph, last sentence: This statement could be deleted. Section 3.6.2, appears to be an adequate coverage of the items listed as not being covered in this report.*

   Response: The statement has been deleted as suggested.

7. *Section 3.6.2, p. 3-14, first paragraph, third sentence: This statement is rather broad and not yet supported by information in the text. Recommend either deleting statement or providing the supporting information immediately following this paragraph.*

   Response: The statement regarding the Fox Hills Sandstone and Lower Laramie Formation has been deleted as suggested.

8. *Section 3.6.2, p. 3-15, first paragraph: Please verify the statement of the Arapahoe Formation not being present at OU-1. The mapping report of March 1992 had Arapahoe Formation in one part of the OU-1 area.*

Response: Because most of the bedrock at OU1 is stratigraphically lower than bedrock interpreted as the basal Arapahoe Formation in the recent geologic mapping report (EG&G 1992) and no sandstones exhibiting the discriminating characteristics (well-rounded, frosted sand grains and chert and ironstone pebbles) of the marker bed at the base of the Arapahoe Formation are found at OU1, all bedrock underlying OU1 is considered to be part of the upper Laramie Formation. The text has been clarified and a figure showing bedrock geology has been added.

9. *Section 3.6.3, p. 3-20, second paragraph: This discussion on seeps seems out-of-place. This discussion would seem to be better placed in Section 3.7, "Hydrogeology."*

Response: As indicated in response to General Comment IV, this section has been revised as requested.

10. *Section 3.7, p. 3-21, second paragraph: This discussion is important to understanding the Hydrogeological regime at OU-1, and Rocky Flats Plant, however it is difficult to follow. Recommend the use of a schematic figure to illustrate what is being discussed and perhaps breaking this paragraph into three paragraphs, one discussing aquifers, one the upper hydrostratigraphic unit, and one on the lower hydrostratigraphic unit.*

Response: As requested, the referenced discussion has been revised and clarified.

11. *Section 3.7.1, p. 3-26, second paragraph: Please clarify the relationship of seeps and groundwater. It would seem that seeps are the result of the groundwater surface intersecting topography which would not make the seep a "source" of groundwater. Perhaps reference should be made to the seeps as contributing water to surface drainages instead of as a "source" of groundwater.*

Response: As indicated in response to General Comment IV, this section has been revised as requested.

12. *Section 3.7.1, p. 3-28, fourth paragraph: No data, is provided or no flow shown on Table 3-2 for station SW-46. This would indicate that this may not be a "seep."*

Response: The discussion of a possible surface seep at SW046 has been deleted.

13. *Section 3.7.2, p. 3-33, third paragraph: The last sentence on this page needs further clarification. The Standard Operating Procedures (SOPs) were designed to keep the problem of data incomparability from occurring. The data that cannot be used should not be presented, or more detailed explanation as to the different methods employed provided. Perhaps the data with no confidence can be provided in an Appendix.*

Response: As indicated in response to General Comment V, this discussion has been revised as requested.

14. *Table 3-2: Please provide a cross reference to a figure showing sampling locations. (Applies to all tables with sampling data).*

Response: Figures and tables have been cross-referenced where possible.

15. *Figure 3-7: The hinge line shown running through Rocky Flats Plant is not supported by cross-sections. Please clarify what this hinge line represents.*

Response: This figure has been deleted.

16. *Figure 3-11: This surface geology map does not agree with the surface map in the March 1992 Surface Mapping report. The 1992 map had more bedrock shown and also placed Arapahoe rock at the surface. Please clarify.*

Response: Because most of the bedrock at OU1 is stratigraphically lower than bedrock interpreted as the basal Arapahoe Formation in the recent geologic mapping report (EG&G 1992), and because there are no sandstones exhibiting the discriminating characteristics (well-rounded, frosted sand grains and chert and ironstone pebbles) of the marker bed at the base of the Arapahoe Formation are found at OU1, all bedrock underlying OU1 is considered to be part of the upper Laramie Formation. The text has been clarified and a figure showing bedrock geology has been added.

17. *Section 4.0, p. 4-2, second paragraph, last sentence: Please define "locally analyzed."*

Response: The term does not apply, and has been deleted from the text.

18. *Section 4.0, p. 4-2, third paragraph: Please clarify what "locations not sampled at the time of this report" means. Will these locations be sampled and included in the final report?*

Response: The phrase no longer applies, and has been deleted from the text.

19. *Section 4.0, p. 4-5, second paragraph: The handling of background needs clarification. Does Table 4-1 represent values of background or does a multiplier of the values on this table represent background?*

Response: As addressed in the response to General Comment II, current RFP background is listed in the table, but a multiplier of ten is used to account for natural variance in the geochemistry of geologic materials.

20. *Section 4.1, p. 4-6, third paragraph: Please include a discussion on the ratios of various isotopes to differentiate man-made from naturally occurring material, if ratios were or can be determined.*

Response: A discussion of the relative abundance of man-made and naturally occurring radioisotopes, primarily uranium, is included in Section 5.2.

21. *Section 4.1, p. 4-7, first paragraph: ARARs should be presented in the Remedial Investigation (RI)/Feasibility Study (FS) RI/FS, not "determined" in the ROD. The ROD, through the FS, can document a variance from an ARAR, not determine ARARs.*

Response: The description of the use of ARARs and the ROD was incorrect. The discussion of ARARs has been expanded in Section 4.8.

22. *Section 4.2, p. 4-9, second paragraph: This table needs more explanation in the text, or with the table itself. Currently it means nothing and could be deleted as the information contained in the table is not used.*

Response: The table has been deleted from the text.

23. *Section 4.2.1, p. 4-10, second paragraph: The statement on detections of organics being related to lab contamination needs to be supported. As this appears to be a general problem throughout the investigation a section prior to the Individual Hazardous Substance Sites (IHSSs) specific discussions presenting the QA/QC data would be useful. (Applies to all sections on IHSS investigations.)*

Response: Section 4.8.1 includes a discussion of the presence of laboratory contaminants in soils. Detections less than ten times the analytical detection limit or certified reporting limit are considered to be due to laboratory contamination.

24. *Section 4.2.2, p. 4-12, fifth paragraph: Please relate the values found for these metals to the background values provided in Table 4-1. Also utilizing the mean of samples at each IHSS at a determinant does not appear correct. If background was determined by analyzing a statistical significant data set, then individual sample values should be compared against that background, not local populations. Please clarify what purpose evaluating IHSS specific population means to background accomplish. (Apply to all sections on IHSS investigations).*

Response: Based on revised background concentrations presented in the Final Background Geochemical Characterization Report for RFP, these metals no longer exist at elevated levels when compared to background values. The text has been revised.